A COMPARISON OF TRACK ALIGNMENT MEASURING METHODS

The report describes a technique for comparing track alignment measuring systems based on finding an idealised design curvature of classical form for the data from each measuring system. The design curvature is optimised by minimising the slues required to move the track from the measured to the design position.

A full set of measured versine; design versine and slue results are shown for each set of measurements, namely:

- Theodolite at 10m spacing
- 5 inch and 10m spaced TMM
- 5 inch and 10m spaced TRIM
- 10m spaced hand versines

Statistical analysis is used to compare design curvatures, measured versines and slues. Results show that TMM agrees closely with the theodolite survey whilst TRIM is less good with the curvature measurement some 3% larger than that indicated by the theodolite. The hand versine method gave remarkably good results considering the resolution of the measurements.

(TMM is an automatic system that measures the angle between a long and short chord.
TRIM is the inertial measuring system on which the High Speed Track Recording Coach is based).

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